UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

YUMA MUNICIPAL WATER

Date: 9/27/99

MEMORANDUM

SUBJECT: Summary of Data Quality

FROM: Carl Brickner, Jr., Environmental Scientist
Quality Assurance Program (QAP), PMD-3

THROUGH: Vance S. Fong, P.E., Manager
Quality Assurance Program (QAP), PMD-3

TO: Kevin Mayer, Remedial Project Manager
Northern California Cleanup Section, SFD-7-2

Two (2) water samples from Colorado River were sampled on August 4, 1999. The samples were submitted to the USEPA Region IX Laboratory for Perchlorate analysis on August 5, 1999. A data package was submitted to the Quality Assurance Program on August 18, 1999 for final review.

An evaluation of the data package was performed by the QA Program with the goal of producing a detailed Data Validation Report based on clearly defined and documented project-specific data quality criteria and/or method quality objectives. The report identifies significant and noticeable data quality issues/deficiencies and indicates whether the data quality meets the intended use.

This evaluation included: verification of the analytical results and associated quality assurance/quality control data for completeness, verification of the chain-of-custody forms (against laboratory reported information, for signatures, for sample condition upon receipt by the laboratory and for sample preservation), verification of holding times, review of QC summaries, review of blanks for contamination, check of reported results against raw data, a random check (percentage determined by the professional judgement of the data evaluator on a project specific basis) of all the various calculations in the data set (eg. verify and recalculate concentrations of standards, check expiration dates of standards from standard preparation logs, verify calibration criteria, QC concentrations, etc.), check of raw data for interference problems or system control problems. These criteria were all evaluated in the context of the project data quality objectives.

The following data quality issue should be noted: .

> Perchlorate results for both samples may have a low bias as noted in Comment A.

If the data user requires further assistance or has any questions concerning this Summary of Data Quality or the attached Data Validation Report, contact Carl Brickner at (415) 744-1536.

Attachments
cc: Brenda Bettencourt, Laboratory Section, PMD-2

DATA VALIDATION REPORT

SITE:	Colorado River
EPA SSI NO.:	N/A
CERCLIS ID NO.:	N/A
CASE/SAS NO.:	R99S48
SDG NOs.:	99217A
LABORATORY:	EPA Region 9 Lab, Richmond
ANALYSIS:	Perchlorate
REVIEWER:	Carl Brickner, Jr., QAP
DATE:	September 27, 1999

I. Case Summary

SAMPLE INFORMATION:

Sample Numbers:	YUMA RAW WATER and YUMA FINISHED WATER
Matrix:	Water
Analysis:	Perchlorate
Collection Date:	August 4, 1999
Sample Receipt Date:	August 5, 1999
Analysis Dates:	August 6, 1999
Field Blanks (FB):	None.
Equipment Blanks (EB):	None.
Background Sample (BG):	None.
Field Duplicates (D1):	None.

ANALYSIS DATES:

Analysis	Analysis Date
Perchlorate by IC	August 6, 1999

ATTACHMENTS:

Table 1A: Analytical Results with Qualifications.
Table 1B: Data Qualifiers.

TPO ACTION:

SAMPLING ISSUES: None.
OTHER: None.

TPO ATTENTION:

SAMPLING ISSUES: None.
OTHER: None.

ADDITIONAL COMMENTS:

The analytical results with qualifications are listed in Table 1A. This report was prepared in accordance with EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", February 1994, and referenced State of California Department of Health Services document "The Determination of Perchlorate in Water by Ion Chromatography, Rev. No.0", 1997.

II. Validation Summary

	Acceptable	Comment
Calibration	[Yes]	[ ]
a. Quality Control Sample		
b. Instrument Performance Check Solution		
c. Calibration Blank		
d. Quantitation Limit Standard		
Sample Quantitation	[No]	[A]
Laboratory Reagent Blank	[Yes]	[ ]
Laboratory Fortified Blank	[Yes]	[ ]
Laboratory Fortified Sample Matrix	[Yes]	[ ]
Laboratory Duplicate Sample	[Yes]	[ ]
Sample Preservation and Holding Times	[Yes]	[ ]
Field QC Samples	[N/A]	[ ]
a. Field Duplicate Sample		
b. Field/Equipment Blank		

N/A - Not Applicable

III. Validity and Comments

A. Due to method limitations the following results are estimated (J) (see Table 1A):

- Perchlorate in both samples.

As a result of method limitations Perchlorate does not resolve well in environmental samples with high total dissolved solids, chloride, or sulfate and tends to coelute with a large interferent peak. In both samples such interferent peaks were noted. Therefore in the reviewer's professional opinion Perchlorate at project levels of interest may be biased low.

ANALYTICAL RESULTS
TABLE 1A

VALIDATED DATA

Analysis Type: Perchlorate

Case No.: R99S48 (SDG: 99217A)
Site: Colorado River
Lab.: Region 9, Richmond
Reviewer: Carl Brickner, Jr., EPA/QAP
Date: September 27, 1999

Concentration in ug/L

Sample No.	N/A			N/A			N/A			N/A													
Sample I.D.	Yuma Raw Water			Yuma F. Water			Reagent Blank			QL													
Lab Sample I.D.	AB23312			AB23313			N/A			N/A													
Date of Collection	08/04/99			08/04/99			N/A			N/A													
Analyte	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result													
Perchlorate	6	J	A	6	J	A	5	U		5													

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
QL-Quantitation Limit.

D1, D2, etc.-Field Duplicate Pairs.
FB-Field Blank, EB-Equipment Blank, TB-Trip Blank, BG-Background Sample.
N/A-Not Applicable.
N/R-Not Required.

TABLE 1B
DATA QUALIFIERS

NO QUALIFIERS indicate that the data are acceptable both qualitatively and quantitatively.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.